GH Phipps CONSTRUCTION COMPANIES

5995 Greenwood Plaza Blvd.
Suite 100
Greenwood Village, CO 80111-4710
303-571-5377
303-629-7467 (fax)

TRANSMITTAL

No. 13D1315-0001

PROJECT: MHS-Medgas Upgrades

DATE: 02/21/2013

TO: Intergroup Architects
2000 W Littleton Blvd
Littleton CO 80120

RE: 22 63 13-Gas Piping for Laboratory

ATTN: Dale Skinner

Ph/Fax: 303-738-8877

JOB: 13D1315

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☐ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☑ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☑ Specifications / Product Data	☐ Attached	☐ Returned for Corrections
☐ Other:	☐ Separate Cover Via:	☑ Due Date: 02/26/2013

NOTES:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal	22 63 13	22 63 13.01	1	1	02/18/2013	Med Gas Outlets	Architect Review

CC:

Signed: _____

Dan Lane

Submittal Stamp Sheet

Project: MH/UCH Medgas Upgrades
Phipps' Job #: 13D1315
Submittal #: 22 63 13.01

Intergroup Architects
2000 West Littleton Blvd.
Littleton, CO 80120

Gerald H. Phipps, Inc.:	Architect:
SUBMITTED ***GH Phipps*** *Construction Companies* GH Phipps has reviewed, approved, and herby submits the attached in accordance with the contract documents. Note to Subcontractor/Material Supplier: Subcontractor/Material Supplier remains responsible for the confirmation and correlation of dimensions at the jobsite; fabrication processes and construction techniques; coordination of the work with the work of other trades; and satisfactory performance of the work.	
Engineer:	Other:

NOTES:

Signed: Dan Lane, LEED AP BD+C

GH Phipps Representative

SUBMITTAL

Date: 2/20/13

Submittal # : 1 **Re-Submittal Date:**

Project : Memorial Hospital Medical Gas Upgrades Central Campus

General Contractor: GH Phipps

Mechanical Engineer: AE Associates

Architect: Intergroup Architects

Section Number	Para	Description	Supplier	Action Taken
		Med Gas Outlets	Medical Air Systems	

Architect / Engineer Comments

The above drawings are returned with action as designated in accordance with the following legend:

A - No Exceptions Taken
B - Make Corrections Noted
C - Revise and Resubmit
D - Rejected see Remarks

Olson Plumbing & Heating

Signed:

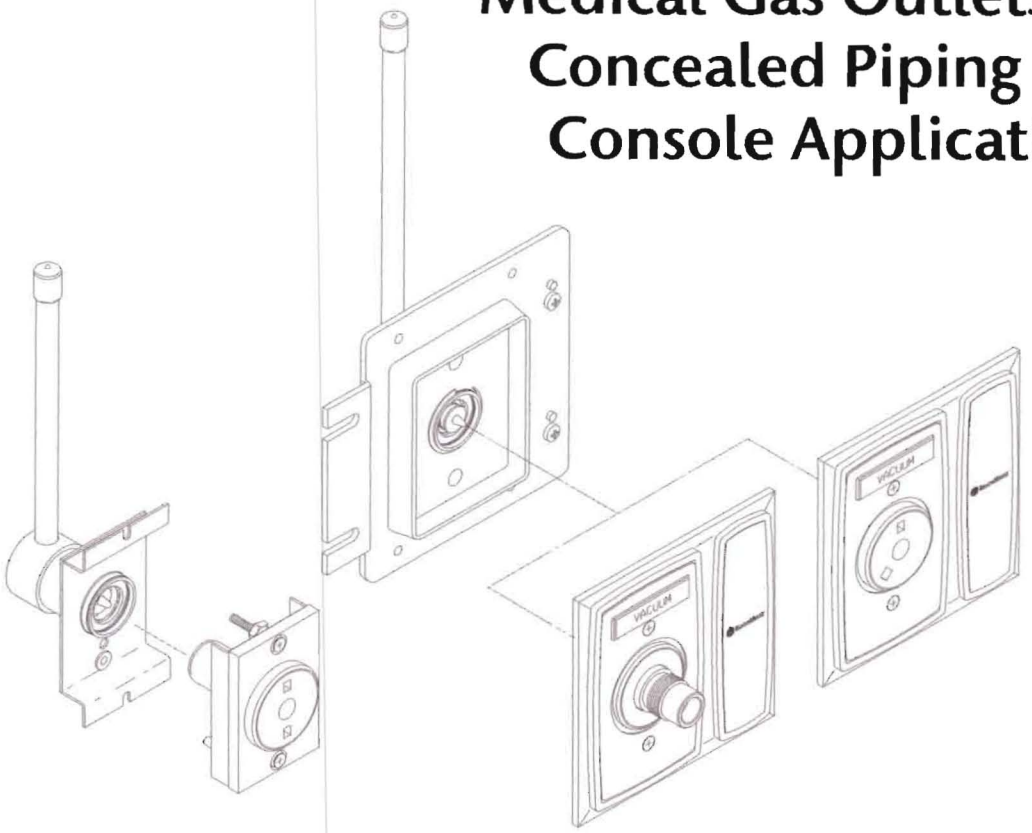
Kris Damgaard
Olson Plumbing and Heating Co.

Wall Outlets

Service Manual

Gemini, Diamond®II and Diamond®III

Medical Gas Outlets for Concealed Piping and Console Applications



MAN01-049

Part number 847706-00 Rev. C00

BeaconMedæs®

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Introduction

This manual provides information needed to service BeaconMedæs Gemini, Diamond® II and Diamond® III Gas Outlets. Information contained in this manual is intended for use by technicians or personnel qualified to repair and service medical equipment.

Definition of Statements

Statements in this manual preceded by the following words are of special significance.

⚠ **WARNING:** Means there is a possibility of injury or death to yourself or others.

⚠ **CAUTION:** Means there is a possibility of damage to the unit or other property.

NOTE: Indicates points of particular interest for more efficient and convenient operation.

General Product Description

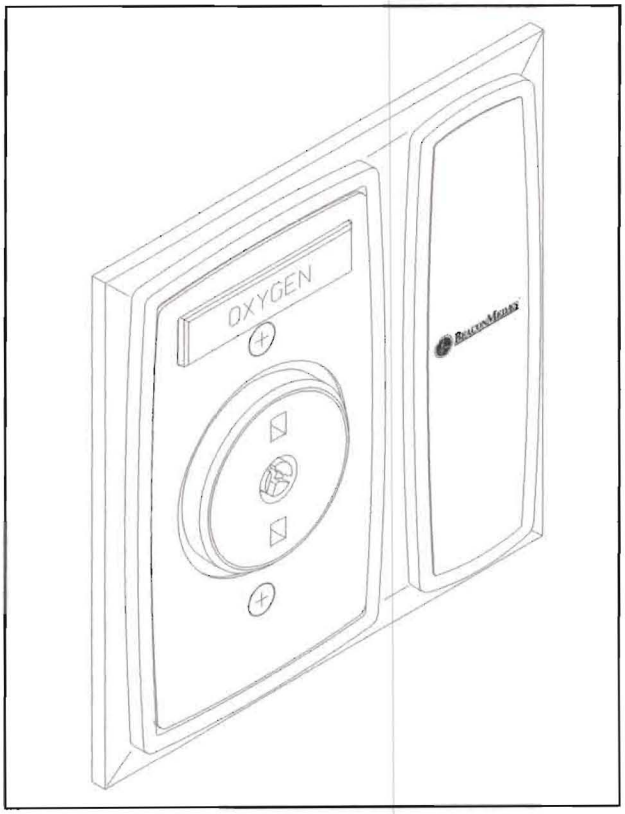
BeaconMedæs medical gas and vacuum quickconnect outlets provide a means of connecting to medical gas piping system. When appropriate adapter is inserted into outlet, primary valve is opened, permitting gas flow. Mechanical latch secures adapter in outlet. Primary seal closes when adapter is removed.

Outlets are typically for oxygen, nitrous oxide, air, or vacuum and have been cleaned for indicated service.

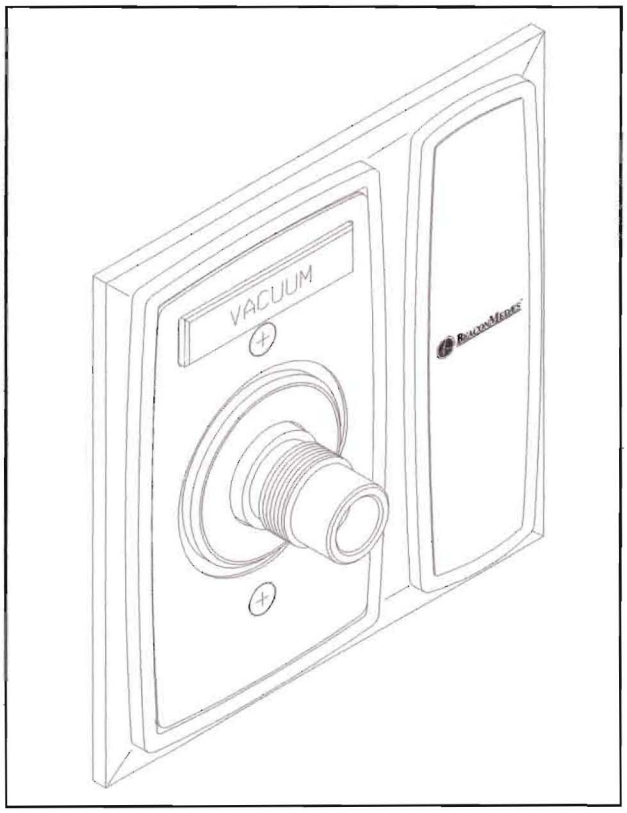
DISS outlets are typically used in ceilings of operating rooms or in place of quick-connect outlets. Connection to outlet is by means of a nut and nipple. Gas-specific indexing to prevent accidental connection to wrong service is accomplished by a series of interference diameters in accordance with Diameter-Index Safety System (DISS) published by Compressed Gas Association (CGA) in Standard V-5. Nipple opens primary valve as nut is tightened to secure nipple in outlet. Primary valve closes when nipple is removed.

⚠ WARNING:

Do not use oil on adapters or outlets.



Gemini Concealed Quick-Connect Front Body



Gemini Concealed DISS Front Body Description Manufacturer

Tools and Service Materials

Description	Manufacturer
Lubricant	Krytox® GPL206 BeaconMedæs P/N GRS01-007
No. 2 Phillips screwdriver	Local source
No. 2 Flat-blade screwdriver	Local source
Oxygen compatible leak detector solution	Sherlock or equivalent

Cleaning and Lubrication

BeaconMedæs outlets are cleaned for oxygen or the indicated service. Exposed surfaces of outlets may be cleaned with a mild detergent solution or wiped with a disinfectant used for patient room surfaces that is compatible with acetal and nylon plastic, anodized aluminum, and die cast zinc.

Lubricate elastomer seals sparingly with Krytox® GPL206. Refer to Tools and Service Materials.

DO NOT USE OIL.

Inspection and Testing

Medical gas outlets in high-use areas should be inspected at least every six months and more frequently if outlets are used daily. All outlets should be inspected at least once a year.

Follow National Fire Protection Association Standard 99, 99C "Gas and Vacuum Systems," and Canadian Standards Association, Standard Z 305.1 "Nonflammable Medical Gas Piping Systems" requirements and methods for periodic testing and maintenance of medical gas and vacuum systems.

Outlet Identification

Before servicing medical gas outlets, it is very important to identify exact type and vintage of outlet.

Wall Outlets

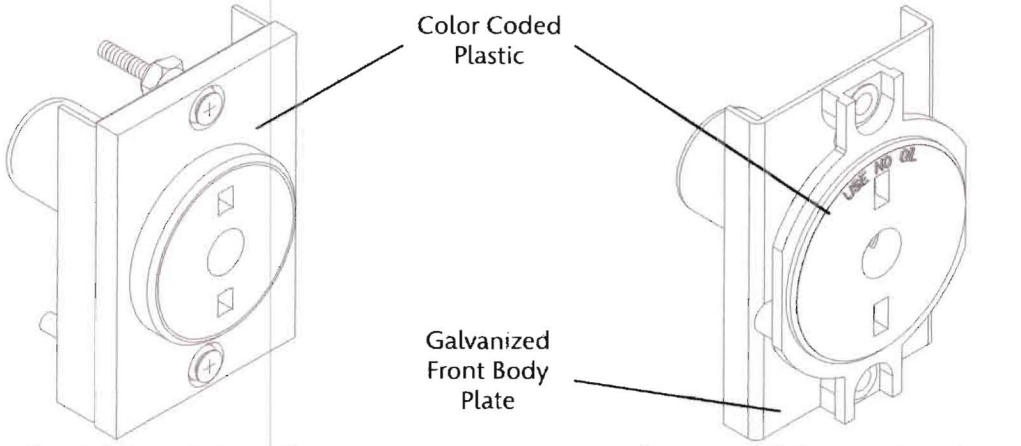
Gemini wall outlets are identified by a Beacon Medical or BeaconMedæs logo on right hand side of outlet.

Diamond® III/DISS III wall/ceiling outlets may be identified by the words "Hill-Rom" or "Medæs" cast into cover plate on lower right hand side and Model No. 300 series or 400 series on back side of cover plate.

Diamond® II wall/ceiling outlets are identified by Model A30 series on back side of cover plate.

Console Outlets

Remove console cover plate to expose front body.



Gemini Console Front Body

Diamond®III Console Front Body

Gemini console outlets will appear as shown above. Front body will have a solid rectangle of color coded plastic approximately 1 7/8" wide x 2 3/4" tall. Raised circular keying portion of front body will rise approximately .200".

Diamond® III console outlets will appear as shown above. Front body will be easily identified by appearnace of galvanized front body plate visible in corners.

Diamond®II Medical Gas Outlets

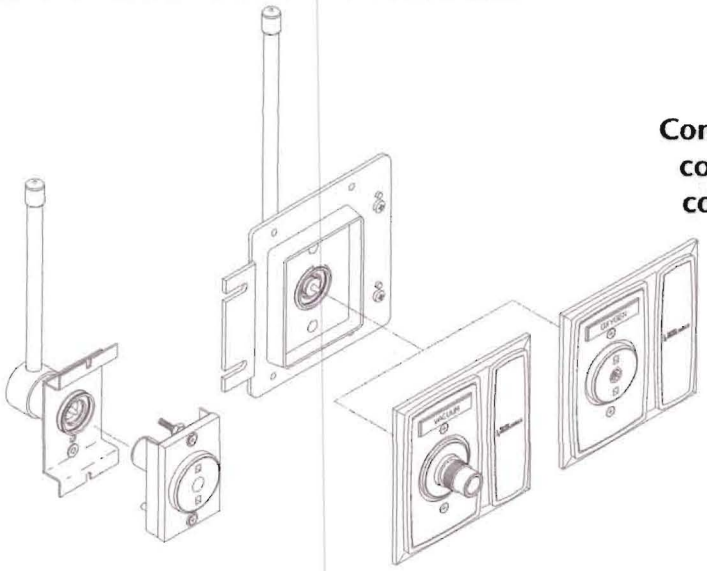
Diamond®II medical gas outlets must be upgraded to Gemini Medical gas outlets.

Upgrade of Diamond II® Medical Gas Outlets

Rough-in assembly must be upgraded to accept Gemini front body. This requires installation of a new spring, secondary check, o-ring, rubber seal and retaining ring.

Order one Secondary Check Repair Kit, P/N 290802-PG for pressure service or 290803-PG for vacuum or WAGD service, and 10 each of Secondary Check, P/N 525344-00 for every 10 outlets to be upgraded Order one each of Gemini or DISS finish assembly (ref. page 6) for each corresponding gas service.

Outlet Assembly Ordering



Complete assemblies for concealed piping and console applications.

Gemini/Diamond® III Assembly Numbers			
Outlet Type	**Gas Service**	**Rough-in Assembly**	**Finish Assembly**
Gemini Concealed Quick-Connect	Oxygen	234510-00	234610-00
	Nitrous Oxide	234511-00	234611-00
	Air	234512-00	234612-00
	Vacuum	234513-00	234613-00
	WAGD	234519-00	234619-00
	Vacuum Slide	234500-00	234600-00
	Blank	234500-00	234601-00
Gemini Concealed DISS	Oxygen	234510-00	234710-00
	Nitrous Oxide	234511-00	234711-00
	Air	234512-00	234712-00
	Vacuum	234513-00	234713-00
	Nitrogen	234514-00	234714-00
	WAGD	234519-00	234719-00
	Carbon Dioxide	234520-00	234720-00
Gemini Console* Quick-Connect	Oxygen	234410-00	234810-00
	Nitrous Oxide	234411-00	234811-00
	Air	234412-00	234812-00
	Vacuum	234413-00	234813-00
	WAGD	234419-00	234819-00
DISS Console*	Oxygen	234410-00	4107 2097 49
	Air	234412-00	4107 2097 51
	Vacuum	234413-00	4107 2097 50
Diamond® III Console* Quick-Connect	Oxygen	234410-00	4107 2097 45
	Nitrous Oxide	234411-00	4107 2097 46
	Air	234412-00	4107 2097 48
	Vacuum	234413-00	4107 2097 47

* Finishing plates are not supplied with these assemblies.

Service

Notify appropriate hospital personnel when performing service or maintenance to medical gas systems. Consult Troubleshooting Guide to determine required repair. Outlets incorporate a primary valve and secondary check. Secondary check prevents system gas from escaping when primary valve is removed for service. Refer to Replacement Components for identification ofreplacement part numbers.

Quick-Connect and DISS Valve Assemblies (Primary Valve)

Quick-connect and DISS valves may be removed for replacement of seals and some components without interrupting service to other outlets in piping system. To check a quick connect or DISS valve for leaks, apply leak detector solution at primary valve opening both with and without adapter connected. Bubbles indicate pressure leaks. Large leaks may be audible.

NOTE:

Replace all elastomer seales whenever outlets are disassembled.

Front Body

Disassembly of Gemini/Diamond® III/DISS III outlets for servicing and parts replacement is illustrated in exploded parts breakdown (pages 10 -12).

NOTE:

Gas supply need not be turned off when removing front body - secondary check and bushing in back body prevents flow from outlet.

Adapter locking spring on Gemini/Diamond® III front body housing, and front body o-ring, can be replaced by dismantling housing as follows:

1. Loosen two front body screws.

NOTE:

On recessed and surface mount outlet models, screws are held in place by rubber washers; console models use elastic stop nuts.

2. Carefully remove front body assembly from back body assembly.
3. Using needle-nose pliers, crush inside flange of brass eyelets and remove from assembly.
4. Remove and replace all worn or damaged parts.
5. New brass eyelets must be used when reassembling front body assembly. Insert eyelets and flare rear of each with 60° tapered punch.

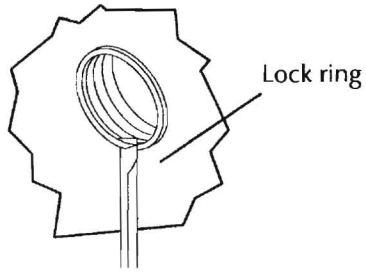
⚠ WARNING:

Be certain gas supply to outlet is shut off before disassemblying back body.

Back Body

Remove internal parts from back body assembly by lifting inside (1") lock ring from rear housing with small screwdriver, as illustrated below.

Carefully work rubber bushing from back body with screwdriver. Remove check unit and spring. Replace components as necessary and reassemble outlet.

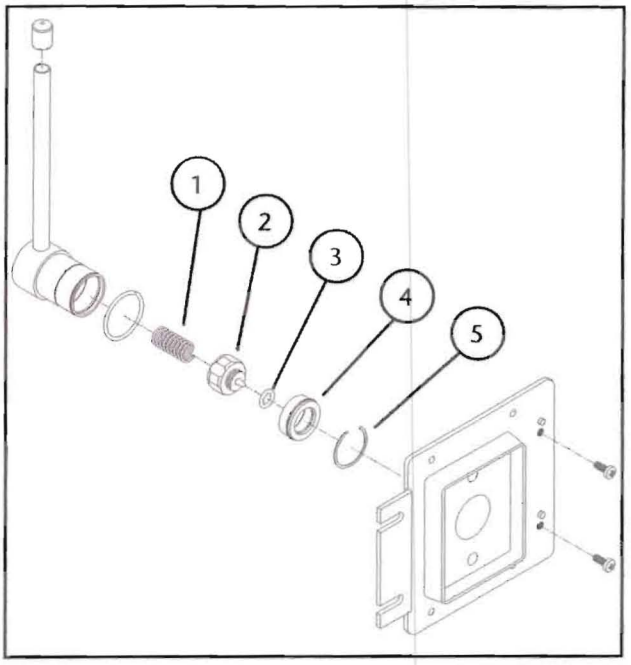


Troubleshooting Guide

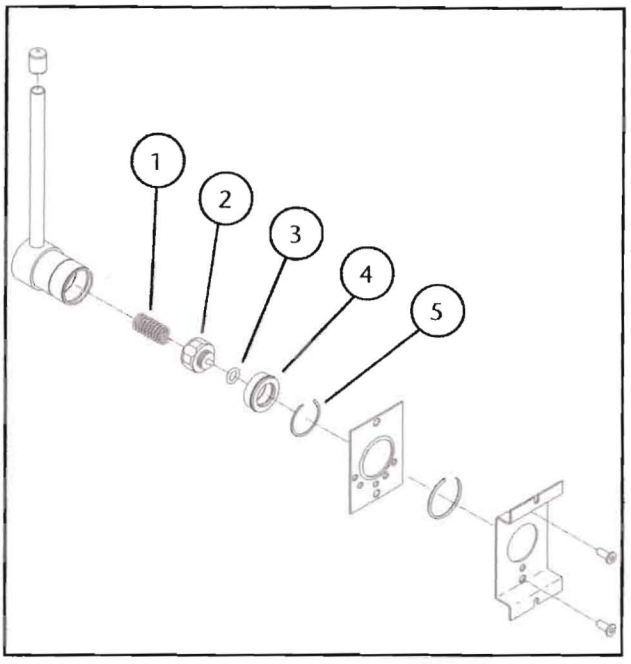
Symptom	Possible Cause	Corrective Action
Quick-Connect or DISS Valve Leaks...		
• without quick-connect adapter in place	• Faulty primary seal	• Replace primary seal
	• Faulty rubber bushing	• Replace rubber bushing
• with quick-connect adapter in place	• Faulty primary seal	• Replace primary seal
	• Faulty rubber bushing	• Replace rubber bushing
	• Faulty quick-connect stem	• Replace quick-connect stem
• without DISS nut and nipple in place	• Faulty primary seal	• Replace primary bushing
	• Faulty rubber bushing	• Replace rubber bushing
• with DISS nut and nipple in place	• Faulty DISS nipple	• Replace DISS nipple
	• Faulty O-Ring seal	• Replace O-Ring seal
Adapter will not engage and/or release	• Damaged adapter	• Replace adapter
	• Wrong adapter	• Check adapter/outlet gas indexing and labels
	• Damaged frontbody assembly	• Replace frontbody assembly
Flow rate does not meet specification	• Piping system pressure/ vacuum incorrectly set	• Reset system pressure/ vacuum
	• Restriction in piping system	• Check system and/or outlet
	• System demand greater than supply source or system capacity	• Check supply source and system sizing
Outlet pressure or vacuum does not meet specification	• System pressure/vacuum not set correctly	• Reset
	• System demand exceeds supply source capability or system capacity	• Check supply source and system sizing
	• Restriction in piping system or outlet	• Check and remove

Replacement Components

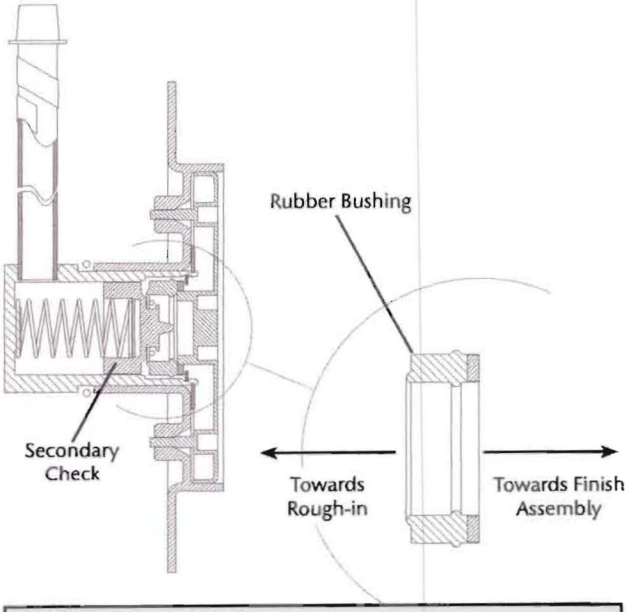
Gemini and Diamond® III Outlets



Concealed Wall Outlet Back Body



Console Wall Outlet Back Body



Item	Part Number	Description
1.	4107 2097 29	Spring (Bronze) for pressure gases (pkg of 10)
	4107 2097 30	Spring (SS) for vacuum and WAGD (pkg of 10)
2.	525344-00	Secondary Check (each)
3.	4107 2097 38	O-Ring,Black (pkg of 10)
4.	622601-PG	Rubber Bushing (pkg of 10)
5.	4107 2097 88	Retaining Ring (pkg of 10)

Repair Kits: *(Below Repair Kits Contain Components to Repair 10 Backbodies)*

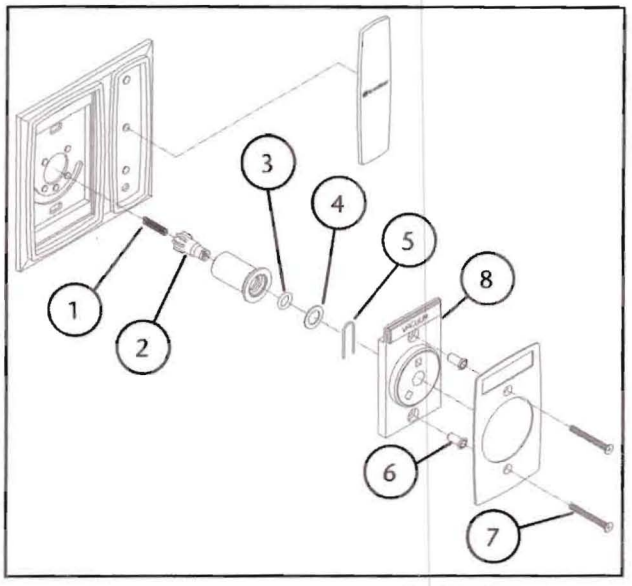
Part Number	Description
290802-PG	Secondary Check Repair Kit (Pressure Service) Items 1, 3, 4, 5
290803-PG	Secondary Check Repair Kit (Vacuum/WAGD) Items 1, 3, 4, 5

NOTE:

- Rubber bushing, item 4, must be oriented as shown for proper operation.
- When replacing rubber bushings, item 4, replacement of secondary check, item 2, is also recommended.

Replacement Components

Gemini and Diamond® III Outlets



Gemini Quick-Connect Concealed Wall Outlet

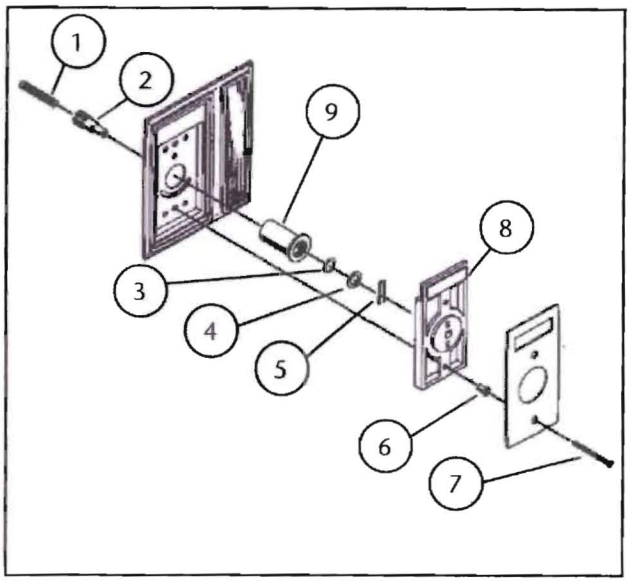
Item	Part Number	Description
1.	833436-PG	Spring (pkg of 10)
2.	4107 2097 44	Piston (pkg of 10)
3.	622589-PG	O-Ring, Red (pkg of 10)
4.	415038-PG	Washer (pkg of 10)
5.	833953-PG	Lock-in Adapter Spring (pkg of 10)
6.	831344-PG	Eyelet (pkg of 50)
7.	4107 4005 21	Screw, 6-32 x 1-1/2"
8.		Keying Disc
	616316-10	Oxygen
	616316-11	Nitrous Oxide
	616316-12	Medical Air
	616316-13	Vacuum
	616316-19	WAGD

Repair Kits:

Gemini: *To repair 10 outlets, order 1 each of 290804-PG and 1 each of 831344-PG, as shown as item 6.*

Diamond III: *To repair 10 outlets, order 1 each of 290804-PG and 1 each of* 4107 2097 31, *as shown as item 6.*

Part Number	Description
290804-PG	Primary Check Repair Kit Items 1, 2, 3, 4, and 5



Diamond® III Quick-Connect Wall Outlet

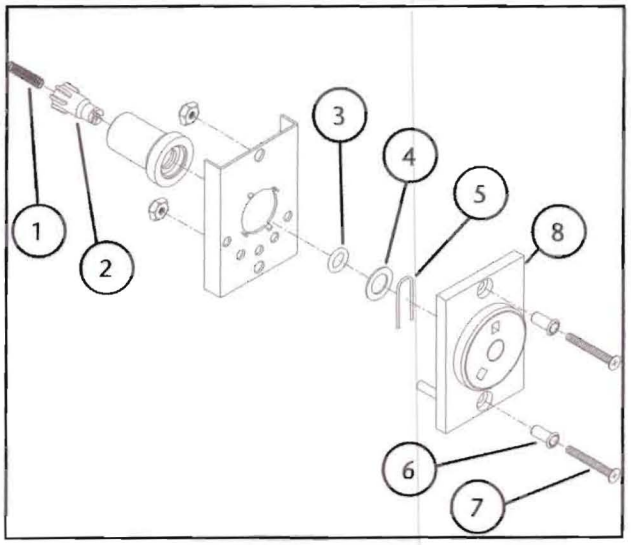
Item	Part Number	Description
1.	833436-PG	Spring (pkg of 10)
2.	4107 2097 44	Piston (pkg of 10)
3.	622589-PG	O-Ring, Red (pkg of 10)
4.	415038-PG	Washer (pkg of 10)
5.	833953-PG	Lock-in Adapter Spring (pkg of 10)
6.	4107 2097 31	Eyelet (pkg of 50)
7.	4107 4005 21	Screw, 6-32 x 1-1/2"
8.		Keying Disc
	4107 4006 08	Oxygen
	4107 4006 09	Nitrous Oxide
	4107 4006 11	Medical Air
	4107 4006 10	Vacuum
	4107 4006 75	WAGD
9.	4107 6520 87	Front Body Cylinder

NOTE:

Do not interchange Keying Discs or Front Body Cylinders between Gemini and Diamond® III applications. Repairs may result in leakage.

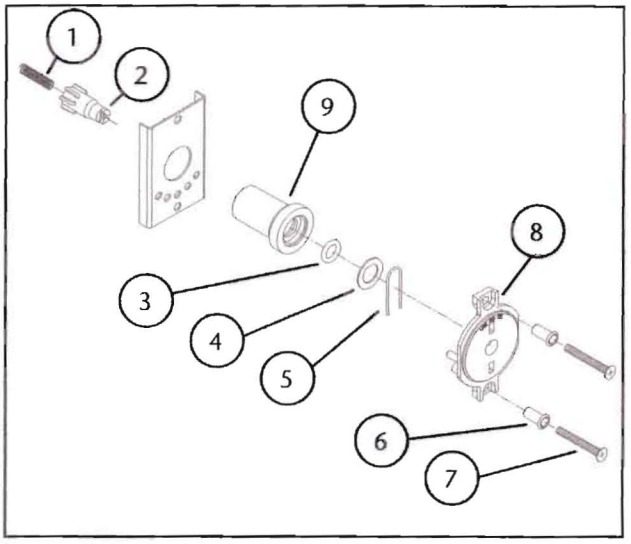
Replacement Components

Gemini and Diamond® III Outlets



Gemini Quick-Connect Console Outlet

Item	Part Number	Description
1.	833436-PG	Spring (pkg of 10)
2.	4107 2097 44	Piston (pkg of 10)
3.	622589-PG	O-Ring, Red (pkg of 10)
4.	415038-PG	Washer (pkg of 10)
5.	833953-PG	Lock-in Adapter Spring (pkg of 10)
6.	831344-PG	Eyelet (pkg of 50)
7.	4107 4005 21	Screw, 6-32 x 1-1/2"
8.		Keying Disc
	616318-10	Oxygen
	616318-11	Nitrous Oxide
	616318-12	Medical Air
	616318-13	Vacuum
	616318-19	WAGD



Diamond® III Quick-Connect Console Outlet

Item	Part Number	Description
1.	833436-PG	Spring (pkg of 10)
2.	4107 2097 44	Piston (pkg of 10)
3.	622589-PG	O-Ring, Red (pkg of 10)
4.	415038-PG	Washer (pkg of 10)
5.	833953-PG	Lock-in Adapter Spring (pkg of 10)
6.	4107 2097 31	Eyelet (pkg of 50)
7.	4107 4005 21	Screw, 6-32 x 1-1/2"
8.		Keying Disc
	4107 6520 74	Oxygen
	4107 6520 73	Nitrous Oxide
	4107 6520 75	Medical Air
	4107 6520 76	Vacuum
9.	4107 6520 87	Front Body Cylinder

Repair Kits:

Gemini: *To repair 10 outlets, order 1 each of 290804-PG and 1 each of 831344-PG, as shown as item 6.*

Diamond III: *To repair 10 outlets, order 1 each of 290804-PG and 1 each of* 4107 2097 31, *as shown as item 6.*

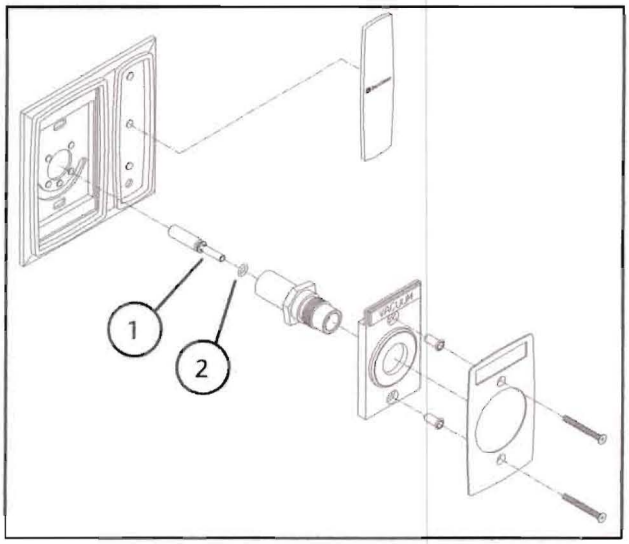
Part Number	Description
290804-PG	Primary Check Repair Kit Items 1, 2, 3, 4, and 5

NOTE:

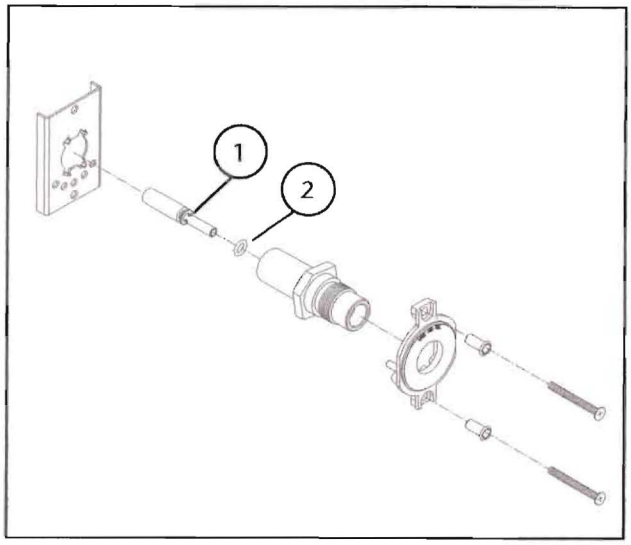
Do not interchange Keying Discs or Front Body Cylinders between Gemini and Diamond® III applications. Repairs may result in leakage.

Replacement Components

DISS Outlets



DISS Concealed Wall Outlet



DISS Console Outlet

Item	Part Number	Description
1.	---	Piston (Not available as separate item. Order appropriate repair kit below.)
2.		O-ring
	622585-PG	For Oxygen, Vacuum, Evacuation and WAGD (pkg of 10)
	622586-PG	For N2O, Air, N2 and CO2 (pkg of 10)

Refer to page 6 for complete replacement assemblies.

Repair Kits: *(To repair 10 outlets, order 1 repair kit for appropriate gas service.)*

Part Number	Description
290805-PG	Primary Check Repair Kit (Oxygen)
290806-PG	Primary Check Repair Kit (N2O, Air, N2 and CO2)
290807-PG	Primary Check Repair Kit (Vacuum and Evacuation)
290808-PG	Primary Check Repair Kit (WAGD)

NOTE:

Repair Kits are not interchangeable between EVACUATION and WAGD services. Be certain to order correct repair kit.

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BEACONMEDÆS

Corporate Headquarters

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1800 Overview Drive
Rock Hill, SC 29730
Phone (803) 817-5600
Fax (803) 817-5750

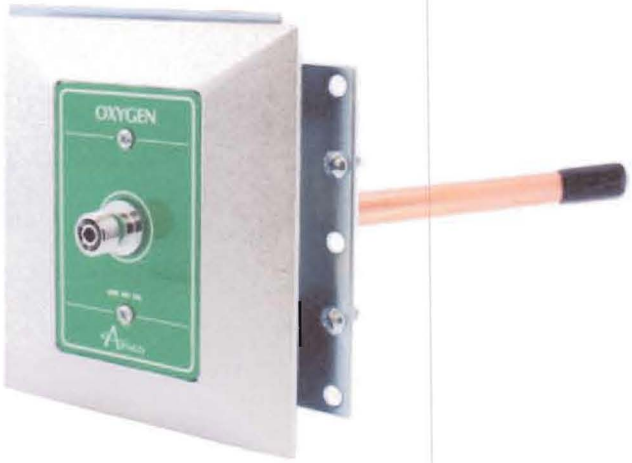
For technical support or to place an order call:

1 888 4 MEDGAS
(1-888-463-3427)
Fax (866) 635-3296
www.beaconmedaes.com

Ceiling Outlets

Ceiling Outlet

DISS or Quick Disconnect



Features:

Flow rate exceeds the requirements of NFPA and CSA

Accepts quick disconnect gas specific adapters, or DISS adapters depending on which front assembly is ordered

100 % Hydrostatic testing of each outlet and cleaned for medical gas service

Indexed to eliminate interchangeability of gas services

Up to 1" [25mm] wall thickness adjustment

360° Swivel Inlet Pipe for easy installation

Universal Rough-In Assembly to accept Quick Disconnects or DISS front adapters (Can be interchanged at any time)

Outlets are also available for M.R.I. use

c UL US LISTED c ETL us

General Specifications:

The medical gas outlet shall be an Amico Alert-1 series.

Outlets shall be manufactured with a 6-1/2" [165 mm] length type "K" 1/2" [12.7 mm] outside diameter (3/8" nominal) size copper inlet pipe stub, which is silver brazed to the outlet body. The body shall be of 1-5/16" [33 mm] diameter, one piece brass construction. For positive pressure gas services, the outlet shall be equipped with a primary and secondary check valve and the secondary check valve shall be rated at a maximum of 200 psi [1,379 kPa] in the event the primary check valve is removed for maintenance. Outlet bodies shall be gas specific by indexing each gas service to a gas specific
dual pin indexing arrangement on the respective identification module.

A large color coded front plate shall be used for ease of gas identification and aesthetic appeal.

With the back rough-in mounted the outlet shall adjust from 3/8" [10mm] up to 1" [25mm] variation in wall thickness.

The latch-valve assembly shall be Ohmeda Diamond™ Quick Disconnect, Chemetron Quick Disconnect, Puritan-Bennett Quick Disconnect, or D.I.S.S. (Diameter Index Safety System) depending on the type ordered.

All M.R.I. outlets are manufactured from nonferrous materials.

All outlets shall be cleaned and degreased for medical gas service, factory assembled and tested.

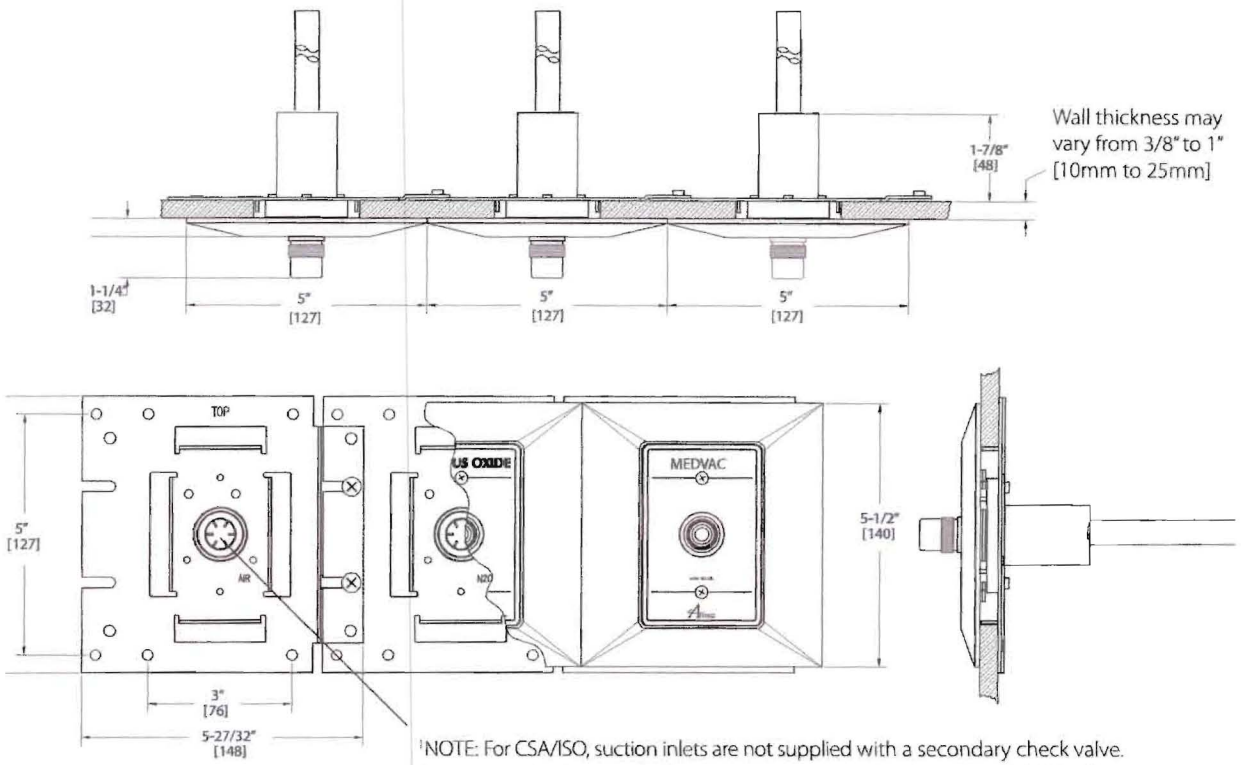
The outlets are UL Listed and ETL Listed.

Amico products comply with NFPA-99 and CSA.

Technical Specifications

NOTE:
Amico recommends that you have a blank space between outlets and slides.
Maximum 3 outlets may be ganged together without additional support.

Inch
[mm]



[1]NOTE: For CSA/ISO, suction inlets are not supplied with a secondary check valve. A pressure plug is provided for testing purposes, rated at 150 psi [1,034 kPa].

Model Numbers

O-DISCEI-L-XXX

DIS = DISS
QD = Ohmeda Compatible
CH = Chemetron Compatible
PB = Puritan-Bennett

The "L" defines the Language:

U = English (NFPA) Oxy, Air, Vac and WAG only
E = English (CSA/ISO)
F = French (CSA/ISO)
S = Spanish (NFPA)

Example: Oxygen NFPA - DISS, Oxygen = **O-DISCEI-U-OXY**

The "XXX" defines the Gas:

Oxygen	=	OXY
Medical Air	=	AIR
Nitrous Oxide	=	N2O
*Nitrogen	=	NIT
**Carbon Dioxide	=	CO2
MedVac[1]	=	VAC
Waste Anesthetic Gas Disposal (NFPA)	=	WAG
Anesthetic Gas Scavenging System[1] (CSA)	=	AGS
Instrument Air	=	INA

* = Available in DISS only
** = Not available for Puritan-Bennett

[1]Please see note above

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SUBMITTAL

Date: 2/19/13

Submittal # 1 **Re-Submittal Date:**

Project : Memroial Hospital Medical Gas Upgrades Project North Campus

General Contractor: GH Phipps

Mechanical Engineer: AE and Associates

Architect: Intergroup Architects

Section Number	Para	Description	Supplier	Action Taken
		Medical Gas Outlets	Medical Air Systems	

Architect / Engineer Comments

The above drawings are returned with action as designated in accordance with the following legend:

A - No Exceptions Taken
B - Make Corrections Noted
C - Revise and Resubmit
D - Rejected see Remarks

Olson Plumbing & Heating

Signed:

Kris Damgaard
Olson Plumbing and Heating Co.

BEACONMEDÆS®

Series B Medical Gas Outlet
Medaes Pin Index Key Style

SPECIFICATION

Medæs Diamond Medical Gas Wall Outlet

The pin index medical gas outlets are gas specific for the services indicated and accept only corresponding pin index adapters. The outlets are UL listed, CSA certified, and are fully compliant with the latest edition of NFPA 99. All outlets are 100% tested for flow, leaks and connector attachment. The outlets are cleaned for oxygen service in the manufacturing process. The outlets are made in the U.S.A.

Outlet Design

A complete medical gas outlet consists of a gas specific rough-in assembly for installation before the wall or console is completed. A matching gas specific latch valve assembly and trim plate are installed after the finish is complete.

Rough-in Assembly

The rough-in assembly is of modular design and includes a gas specific 16 gauge steel mounting plate. Wall versions permit on site ganging of multiple outlets, in any order, on 5" (12.7cm) centerline spacing. A 3/8" (9.5 mm) high metal flange around the outlet opening provides a plaster barrier. A temporary cover is provided to keep debris out of the outlet during installation. Console rough-ins fit standard electrical box cutouts and screw locations.

A machined brass outlet block is permanently attached to the rough-in plate to permit the 1/2" OD (3/8" nominal), type K copper inlet tube to swivel 360° for attachment to the piping system.

Gas service identification is affixed to the inlet tube and the face of the rough-in plate. A secondary valve is installed in the outlet block of the rough-in assembly (except vacuum and WAGD) for both pressure testing and preventing gas flow when the latch valve assembly is removed for service.

The outlet block contains a double seal to prevent gas leakage between the rough-in and latch valve assemblies after the wall is finished. Outlets using a single o-ring seal are not acceptable.

Latch Valve Assembly

The latch valve assembly includes a captured o-ring seal primary valve, is gas specific for the labeled service, and accepts only hose and apparatus with corresponding pin index adapters. The latch valve assembly is indexed to the corresponding rough in assembly to avoid accidental cross connection and self adjusts up to 3/4" (1.9 cm) to allow for variation in finished wall thickness from 1/2" (12.5 mm) up to 1-1/4" (3.175 cm).

Trim Options

Either a die cast, light gray, epoxy powder-coated trim plate or a smaller plastic trim plate can be provided to trim each outlet. The die cast plate is designed specifically to fill the space between adjacent outlets. Either trim plate allows latch valves to be individually removed for servicing.

Pin Index Outlets
(Note that a typical complete outlet consists of one Rough-in, one matching Latch Valve and one Trim Plate)

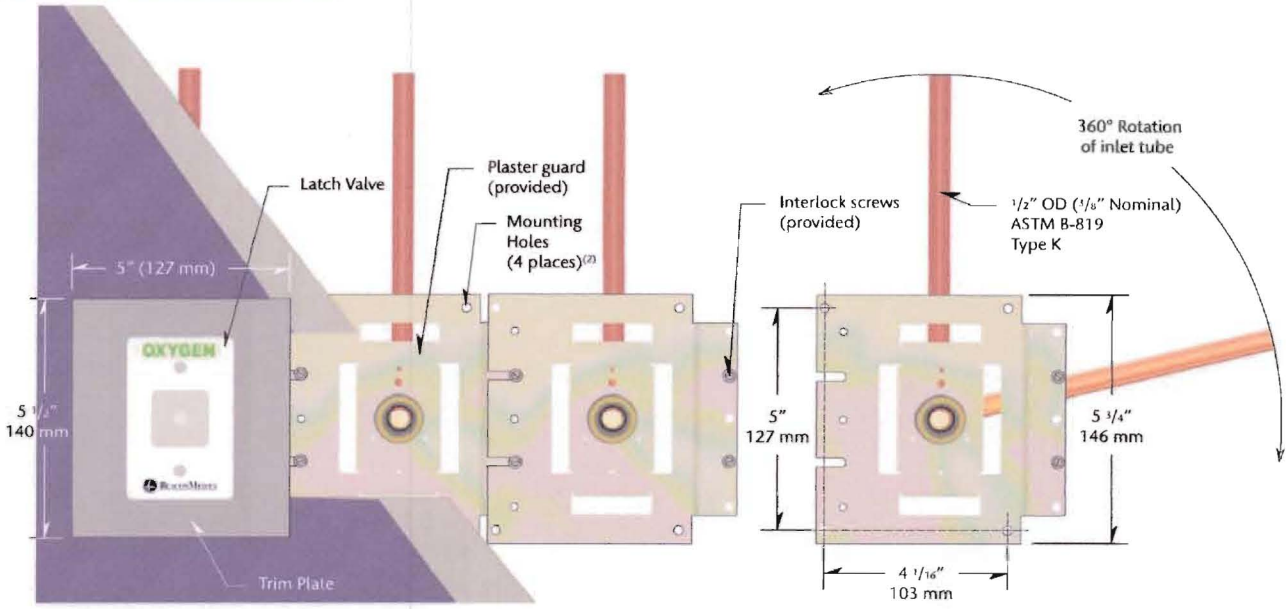
Gas Service	Color Code (Background/Text)	Complete Assembly, Wall Outlet	Rough-in Assembly, Wall Outlet	Rough-in Assembly, Console Outlet	Latch-Valve Assembly, Wall or Console
Oxygen	White/Green	☐ 121030-00	☐ 233110-00	☐ 233010-00	☐ 230940-00
Nitrous Oxide	Blue/White	☐ 121031-00	☐ 233111-00	☐ 233011-00	☐ 230941-00
Medical Air	Yellow/Black	☐ 121032-00	☐ 233112-00	☐ 233012-00	☐ 230942-00
Vacuum	White/Black	☐ 121033-00	☐ 233113-00	☐ 233013-00	☐ 230943-00
WAGD	Purple/White	☐ 121036-00	☐ 233119-00	☐ 233019-00	☐ 230946-00
Medical Air (ISO)	White-Black/Black-White	☐ 151032-00	☐ 233116-00	☐ 233016-00	☐ 230947-00
Vacuum (ISO)	Yellow/Black	☐ 151033-00	☐ 233117-00	☐ 233017-00	☐ 230948-00

Accessories *(Note good design provides one slide with each vacuum)*

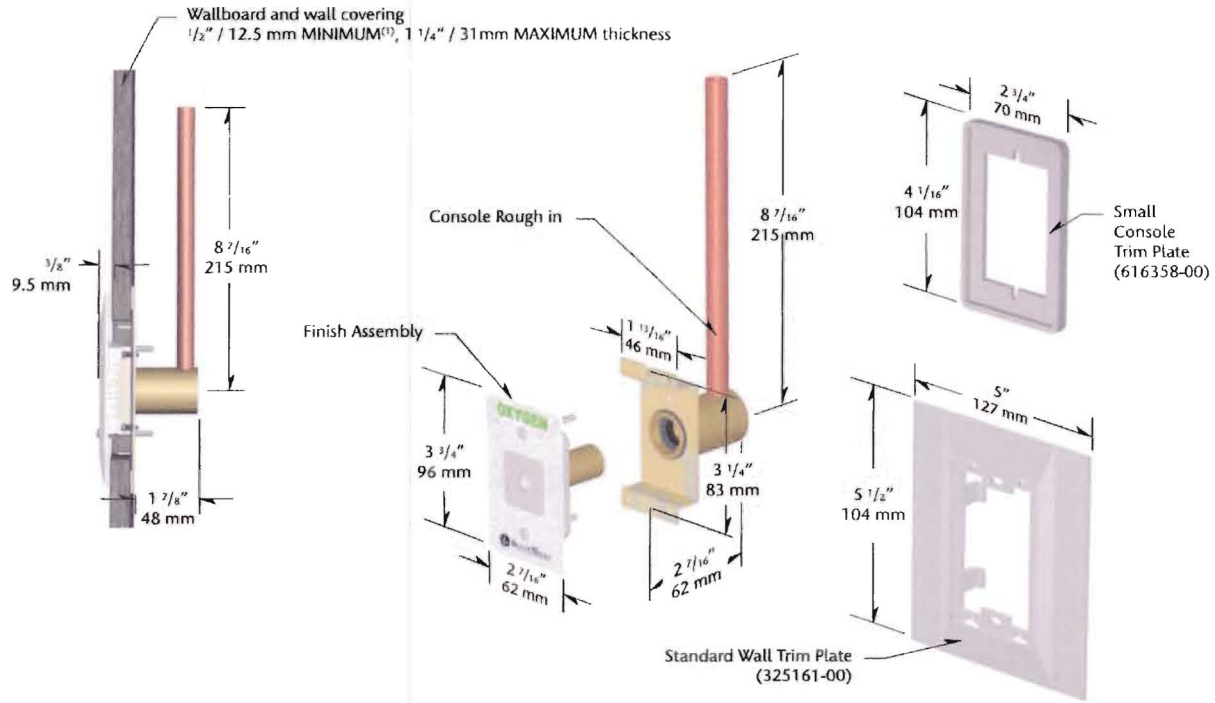
Slide (Wall outlet style, Complete)	☐ 120978-00	Duplex Electrical Receptacle* (Gray 15A, 125V, Wall outlet style, Complete)	☐ 120972-00
Slide (Surface mount style)	☐ 135012-00	Trim Plate, Wall (Large) Style	☐ 325161-00
Blank, Gas (Complete with RI and finish)	☐ 120979-00	Trim Plate, Console (Small) Style	☐ 616358-00
Blank, Gas (Cover plate only)	☐ 415169-00		

*See specification sheet SSB-840-13 for additional electrical receptacles.

Dimensions and Installation



(1) When wallboard is less than ½" / 12.5 mm thick, as in consoles and headwalls, console outlets should be considered.
(2) Plates may gang together in any length. Up to three may be ganged without additional support, however, top and bottom support is always recommended. Total finished length will be 5"/127 mm x number of outlets in the gang (e.g. three outlets = 5 x 3 = 15")


Wallboard and wall covering
½" / 12.5 mm MINIMUM(1), 1 ¼" / 31mm MAXIMUM thickness
⅜" 9.5 mm
8 7/16" 215 mm
1 7/8" 48 mm
Console Rough in
Finish Assembly
8 7/16" 215 mm
1 13/16" 46 mm
3 ¾" 96 mm
3 ¼" 83 mm
2 7/16" 62 mm
2 7/16" 62 mm
2 ¾" 70 mm
4 1/16" 104 mm
Small Console Trim Plate (616358-00)
5" 127 mm
5 ½" 104 mm
Standard Wall Trim Plate (325161-00)

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